tungsten, tantalum, or the like, will now be described. The method of the present invention creates a prosthesis with a coating of radiopaque material having an axially selective thickness. It should be understood, however, that the method is not limited to thickness variations in the axial direction and may be used to create an unlimited number of thickness configurations. Preferably, the prosthesis is entirely covered with a layer of radiopaque material while having thicker deposits of the same or other materials near its ends and having thinner deposits over the remainder, typically midsection, of the device. When the coating material is gold, the thickness near the ends 111 and 113 is preferably between 0.0003 and 0.0009 inches, more preferably between 0.0004 and 0.0007 inches. Thicknesses over the remainder of the prosthesis may be in the range of 0.0002 to 0.0004 inches. The thicker deposits near the ends of the prosthesis make the ends more radiopaque and thus create a stronger image, facilitating the positioning of the prosthesis in its desired location. The middle area 304 is also preferably coated so as to be more radiopaque than the uncoated material under the fluoroscope, but permitting sufficient radiolucency so that the lumen inside the prosthesis may still be inspected fluoroscopically. Alternatively, the middle area 304 may be left uncoated while only the ends of the prosthesis remain coated to achieve an optimal axial radiopacity distribution. Visualization through this middle area 304 may be crucial for observing future restenosis or hyperplasia within the prosthesis. Coating the entire prosthesis at a uniform thickness using the optimal thickness applied to the ends would likely obscure such visualization. Having an axially selective coating customizes the prosthesis to the desired task. It should be understood that the present method may be used to add materials of a variety of thicknesses to a prosthesis.

IN THE CLAIMS:

Please amend claim 1 and add new claims 6 and 7 as follows.

1.   (Amended) A radially expansible luminal prosthesis comprising:

a cylindrical frame having a distal end, a proximal end, a midsection therebetween, and an outer surface for insertion into a body lumen, wherein said frame comprises a radiopaque material which varies in thickness over an axial length of the midsection of the cylindrical frame, so that the radiopacity of the frame varies correspondingly.

6.   (New) A radially expansible luminal prosthesis comprising:

a cylindrical frame having distal and proximal ends, and comprising a radiopaque material having varied thickness along a length disposed between the proximal and distal ends, the frame having varying radiopacity along the length.

7.   (New) A radially expansible luminal prosthesis comprising:

a cylindrical frame having a distal end, a proximal end, and an outer surface for insertion into a body lumen, wherein said frame comprises a radiopaque material which varies in thickness over an axial length of the cylindrical frame disposed between the proximal and distal ends, so that the radiopacity of the frame varies correspondingly.